

10-27-06

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No. 06-451)

In re Application of:

Tang, Christoph Marcel et al.

Serial No.: 10/584,367 ✓

Filing Date: June 23, 2006

I.A. Filing Date: December 23, 2004

For: Identification of Antigenically Important  
Neisseria Antigens by Screening Insertional  
Mutant Libraries with Antiserum

Group Art Unit: TBA

Confirmation No. TBA

Examiner: TBA

TRANSMITTAL LETTER

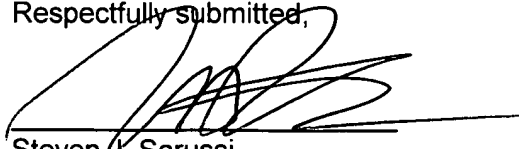
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In regard to the above-identified patent application:

1. We are transmitting herewith the attached:
  - a) Information Disclosure Statement;
  - b) PTO Form 1449;
  - c) Copies of 36 References;
  - d) International Search Report; and
  - e) Return Postcard
2. No fee is due at this time.
3. GENERAL AUTHORIZATION: Please charge any additional fees or credit overpayments to the Deposit Account No. 13-2490. A duplicate copy of this sheet is enclosed.
4. CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this Transmittal Letter and papers, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service, with sufficient postage as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on September 20, 2005.

Respectfully submitted,

Date: October 26, 2006

  
Steven G. Sarussi  
Reg. No. 32,784



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<b>Neisseria Antigens by Screening Insertional</b>	)	
<b>Mutant Libraries with Antiserum</b>	)	

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. Section 1.97 - 1.99, the Applicant wishes to make the following references of record in the above-identified application. This Information Disclosure Statement is in compliance with the continuing duty of candor as set forth in 37 C.F.R. Section 1.56. Copies of the references 1-15 cited below are enclosed. These references are also listed on the enclosed PTO Form 1449.

In the judgment of the undersigned, portions of the listed references may be material to the Examiner's consideration of the presently pending claims. However, the references have not been reviewed in sufficient detail to make any other representation and, in particular, no representation is intended as to the relative relevance between references, whether cited in this or prior statements. This statement is not a representation that the listed references have effective dates early enough to be "prior art" within the meaning of 35 U.S.C. Section 102 or Section 103.

**United States Patents**

None

## **Foreign Documents**

1. EP Patent Application No. EP 0109942, published May 30, 1984.
2. EP Patent Application No. EP 0180564, published May 7, 1986.
3. EP Patent Application No. EP 0231039, published August 5, 1987.
4. United Kingdom Patent Application No. GB A2 189141, published October 21, 1987.
5. PCT Patent Application No. WO 88/07378, published November 15, 2001.
6. PCT Patent Application No. WO 01/85772 A, published October 6, 1988.

## **Other Documents**

7. Albus et al., 1999, "Virulence of *Staphylococcus aureus* mutants altered in type 5 capsule production", *Infect. Immun.* 59: 1008-1014.
8. Anderson et al., 1994, "Safety and immunogenicity of meningococcal A and C polysaccharide conjugate vaccine in adults", *Infect. Immun.* 62: 3391-3395.
9. Bagshawe et al., 1987, "Antibody directed enzymes revive anti-cancer prodrugs concept", *Br J. Cancer* 56: 531-532.
10. Bagshawe et al., 1988, "A cytotoxic agent can be generated selectively at cancer sites", *Br J. Cancer* 58: 700-703.
11. Bart et al., 1999, "Antigenic variation of the class 1 outer membrane protein in hyperendemic *Neisseria meningitidis* strains in the Netherlands", *Infect. Immun.* 67: 3832-3846.
12. Camilli et al., 1990, "Insertional mutagenesis of *Listeria monocytogenes* with a novel Tn917 derivative that allows direct cloning of DNA flanking transposon insertions", *J. Bacteriol.* 172: 3738-3744.
13. Cheung et al., 1992, "Regulation of exoprotein expression in *Staphylococcus aureus* by a locus (*sar*) distinct from *agr*", *Proc. Natl. Acad. Sci. USA* 89: 6462-6466.
14. Danve et al., 1993, "Transferrin-binding proteins isolated from *Neisseria meningitidis* elicit protective and bactericidal antibodies in laboratory animals", *Vaccine* 11: 1214-1220.
15. Feavers et al., 2000, "ABC of meningococcal diversity", *Nature* 404: 451-452.
16. Finne et al., 1983, "Antigenic similarities between brain components and bacteria causing meningitis. Implications for vaccine development and pathogenesis", *Lancet* 2: 355-357.
17. Geoffroy et al., 2003, "Large scale analysis of the meningococcus genome by gene disruption: Resistance to complement-mediated lysis", *Genome Research* 13: 391-398.
18. Goldschneider et al., 1969, "Human immunity to the meningococcus", *J. Exp. Med.* 129: 1307-1326.

19. Jacobs et al., 2003, "Comprehensive transposon mutant library of *Pseudomonas aeruginosa*", *Proc. Natl. Acad. Sci. USA* 100: 14339-14344.
20. Kizil et al., 1999, "Identification and characterization of TspA, a major CD4+ T cell and B cell stimulating *Neisseria*-specific antigen", *Infect Immun.* 67: 3533-3541.
21. Leach et al., 1997, "Induction of immunologic memory in Gambian children by vaccination in infancy with a group A plus group C meningococcal polysaccharide-protein conjugate vaccine", *J. Infect Dis.* 175: 200-204.
22. Liebermann et al., 1996, "Safety and immunogenicity of a serogroups A/C *Neisseria meningitidis* oligosaccharide-protein conjugate vaccine in young children", *J. American Med. Assoc.* 275: 1499-1503.
23. Lu et al., 1994, "Tagged mutations of the Tox1 locus of *Cochliobolus heterostrophus* by restriction enzyme-mediated integration", *Proc. Natl. Acad. Sci. USA* 91: 12649-12653.
24. Makela et al., 2002, "Evolution of conjugate vaccines", *Expert Rev. Vaccines* 1: 399-410.
25. Morrison et al., 1984, "Isolation of transformation deficient *Streptococcus pneumoniae* mutants defective in control of competence, using insertion-duplication mutagenesis with the erythromycin resistance determinant of pAMb1", *J. Bacteriology* 159: 870-876.
26. Schiestl & Petes, 1991, "Integration of DNA fragments by illegitimate recombination in *Saccharomyces cerevisiae*", *Proc. Natl. Acad. Sci. USA* 88: 7585-7589.
27. Schiestl et al., 1994, "Effect of mutations in genes affecting homologous recombination on restriction enzyme mediated and illegitimate recombination in *Saccharomyces cerevisiae*", *Mol. Cell Biol.* 14: 4493-4500.
28. Senter et al., 1988, "Anti-tumor effects of antibody – alkaline phosphatase conjugates in combination with etoposide phosphate", *Proc. Natl. Acad. Sci. USA* 85: 4842-4846.
29. Smith et al., 1994, "Virulence of *Aspergillus fumigatus* double mutants lacking restrictocin and an alkaline protease in a low-dose model of invasive pulmonary aspergillosis", *Infect. Immunol.* 62: 5247-5254.
30. Sun Y-H et al., 2000, "Functional genomics of *Neisseria Meningitidis* pathogenesis", *Nature Med.* 6: 1269-1273.
31. Tettelin et al., 2000, "Complete genome sequence of *Neisseria meningitidis* serogroup B strain MC58", *Science* 287: 1809-1815.
32. Thompson et al., 1994, "CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice", *Nucleic Acids Res* 22: 4673-4680.
33. Vermont et al., 2002, "*Neisseria Meningitidis* serogroup B: laboratory correlates of protection", *FEMS Immunology and Medical Microbiology* 34: 89-96.
34. Villafane et al., 1987, "Replication control genes of plasmid pE194", *J. Bacteriol.* 169: 4822-4829.


35. Walport, 2001, "Complement. Second of two parts", N. Engl. J. Med. 344: 1140-1144.
36. Walport, 2001, "Complement. First of two parts", N. Engl. J. Med. 344: 1058-1066.
37. International Search Report for PCT application (PCT/GB2004/005441).

In accordance with MPEP Sections 609 and 707.05(b), it is requested the document cited (including any cited in applicant's specification which is not repeated on the attached Form PTO-1449) be given thorough consideration and that it be cited of record in the prosecution history of the present application by initialing on Form PTO-1449. Such initialing is requested even if the Examiner does not consider a cited document to be sufficiently pertinent to use in a rejection, or otherwise does not consider it to be prior art for any reason, or even if the Examiner does not believe that the guidelines for citation have been fully complied with. This is requested so that each document becomes listed on the face of the patent issuing on the present application.


Respectfully submitted,

Date: October 26, 2006

By:



Steven J. Sarussi  
Reg. No. 32,784  
**McDonnell, Boehnen Hulbert & Berghoff LLP**  
300 South Wacker Drive, 31<sup>st</sup> Floor  
Chicago, IL 60606  
312 913-0001

<b>FORM PTO-1449</b> (Rev. 9-32) 	<b>U.S. Department of Commerce</b> <b>Patent and Trademark Office</b>	<b>Atty. Docket No.</b>  06-451	<b>Serial No.</b>  10/584367
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		<b>Applicant:</b>  Tang, Christoph Marcel et al.	
(Use several sheets if necessary)		<b>Filing Date:</b> June 23, 2006  <b>Int'l Filing Date:</b> December 23, 2004	<b>Group:</b> Not Assigned

### U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
		None					

### FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	1	EP 0109942	May 30, 1984	EP				
	2	EP 0180564	May 7, 1986	EP				
	3	EP 0231039	August 5, 1987	EP				
	4	GB A2 189141	October 21, 1987	GB				

<b>EXAMINER</b>	<b>DATE CONSIDERED</b>
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**EXAMINER:** Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

<b>FORM PTO-1449</b> (Rev. 2-32)	<b>U.S. Department of Commerce</b> <b>Patent and Trademark Office</b>	<b>Atty. Docket No.</b>  06-451	<b>Serial No.</b>  10/584367
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	5	WO 88/07378	November 15, 2001	WO				
	6	WO 01/85772 A	October 6, 1988	WO				

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).**

7	Albus et al., 1999, "Virulence of Staphylococcus aureus mutants altered in type 5 capsule production", Infect. Immun. 59: 1008-1014
8	Anderson et al., 1994, "Safety and immunogenicity of meningococcal A and C polysaccharide conjugate vaccine in adults", Infect. Immun. 62: 3391-3395
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14	Danve et al., 1993, "Transferrin-binding proteins isolated from <i>Neisseria meningitidis</i> elicit protective and bactericidal antibodies in laboratory animals", <i>Vaccine</i> 11: 1214-1220
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36	Walport, 2001, "Complement. First of two parts", N. Engl. J. Med. 344: 1058-1066
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